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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/203,853	12/02/1998	DAVID WILLIAM WIGGINS	492-1007	4737
23644 7590 03/26/2007 BARNES & THORNBURG LLP P.O. BOX 2786 CHICAGO, IL 60690-2786			EXAMINER LY, ANH VU H	
			ART UNIT	PAPER NUMBER
			2616	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/26/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/203,853

Applicant(s)

WIGGINS ET AL.

Examiner

Anh-Vu H. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 85-144 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 85-144 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

1. This communication is in response to applicant's amendment filed January 18, 2007.

Claims 85-144 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 85-144 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramakrishnan (US Patent No. 6,167,029) in view of Partridge (US Patent No. 6,370,579 B1).

With respect to claims 85-87, 101-103, 117-119, and 131-133, Ramakrishnan discloses a method of controlling flow of frame based data (Fig. 7) comprising the steps of:

receiving frame based data at a local area network frame based data channel interface at a first rate of reception and storing said data in a buffer (col. 7, lines 20-22); monitoring an amount of said data stored in said buffer with respect to a data amount threshold level for said buffer (col. 7, lines 25-27); determining that said amount is greater than said threshold level (col. 7, lines 40-41); in response to said step of determining, generating a signal for adapting said first rate to a second rate of reception lower than said first rate (col. 7, lines 41-44. Herein the pause frame inhibits data transmission for a period of time, e.g., 0-4 timeslots (col. 6, lines 57-59)

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therefore the rate is zero (second rate), which is different than previously transmitted rate (first rate) before generating the pause frame).

Ramakrishnan discloses that the flow control provided by the invention is particularly suitable for high-speed networks (col. 5, lines 60-62). Ramakrishnan does not disclose that high-speed network is wide area synchronous digital network for data transmissions. Partridge discloses that many WANs use SONET because it can accommodate different protocols and bandwidths such as T-1, T-3, and E-1. High speed SONET networks can transmit data at approximately 10-Gbps or OC-192. The SONET and SDH operate at multiples of 51.85 Mbps to allow for efficient conversion from one data rate to the other (col. 1, lines 42-59). This implies that SONET and/or SDH networks are high-speed networks. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Ramakrishnan and Partridge implementing the flow control in SDH or SONET, to prevent network congestions.

With respect to claims 88-89, 104-105, 120-121, and 134-135, Ramakrishnan discloses that wherein said data is received from an Ethernet network and data is Ethernet data (Fig. 2C and col. 5, lines 60-62).

With respect to claims 90, 106, 122, and 136, Ramakrishnan discloses that wherein said signal comprises a pause frame (col. 7, lines 40-44).

With respect to claims 91, 107, 123, and 137, Ramakrishnan discloses that wherein said data is received from an Ethernet network (col. 5, lines 60-62) and said pause frame is an Ethernet pause frame (col. 7, lines 40-44).

With respect to claims 92, 108, 124, and 138, Ramakrishnan discloses that wherein said pause frame specifies a time interval for inhibiting further transmissions from said Ethernet network (col. 9, lines 64-66).

With respect to claims 93, 109, 125, and 139, Ramakrishnan discloses that wherein said buffer further comprises data storage locations configurable to store at least one data frame (Fig. 6).

With respect to claims 94, 110, 126, and 140, Ramakrishnan discloses that wherein said buffer has a size equal to a number of maximum length Ethernet frames, and the number being selectable from a set comprising 4 and 6 (Fig. 6, receiver buffer 606 contains storage locations for a plurality of Ethernet frames).

With respect to claims 95, 111, 127, and 141, Ramakrishnan discloses that wherein said buffer comprises, above said threshold level, an amount of data storage capacity equal to the size of two maximum length Ethernet frames (col. 7, lines 29-33 discloses that the AF level 608 indicates the amount of data stored in the receive buffer 606 is nearing its maximum capacity).

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The AF level can indicate that the receive buffer is at 95% capacity. Herein, the extra 5% can store at least two variable length Ethernet frames).

With respect to claims 96, 112, 128, and 142, Ramakrishnan discloses that wherein said buffer is configured as FIFO queue (col. 7, line 18).

With respect to claims 97, 113, 129, and 143, Ramakrishnan discloses a buffer unit (Fig. 6). Ramakrishnan does not disclose that the buffer is configured as circular buffer. However, circular buffer is well known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have circular buffer in Ramakrishnan's system, since circular buffer including pointers for pointing to next data object in the buffer and length value that specifies how many objects are currently in the buffer.

With respect to claims 98, 114, 130, and 144, Ramakrishnan discloses sending said generated signal over said interface (Fig. 11, physical medium 1106a).

With respect to claims 99 and 115, Ramakrishnan discloses that wherein said step of sending is performed substantially immediately after said step of determining (col. 9, lines 17-19).

With respect to claims 100 and 116, Ramakrishnan discloses that wherein said step of sending is performed upon completing transmission of a data frame currently being transmitted at said interface (col. 9, lines 22-28).

Response to Arguments

3. Applicant's arguments filed January 18, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ramakrishnan teaches a data flow control for detecting available buffer capacity and generating pause frames as needed in high speed networks, e.g., 1Gbps Ethernet networks (col. 5, lines 54-62). The Ethernet networks are known as high-speed networks but SDH and SONET networks are also known as high-speed networks. Therefore, Examiner has relied upon Partridge reference to show that a hybrid network such as Ethernet over SONET (Fig. 1). Herein, the flow control as taught by Ramakrishnan is implemented in switches or routers of Ethernet networks. Therefore, the same flow control can be implemented in other switches and routers in a hybrid network.

Applicant further argues in page 13 the flow control methods and apparatuses claimed are operable on data at the interface between a local and wide area network. Examiner respectfully disagrees. Claim 85 recites "receiving frame based data ... for transmission over a wide area synchronous digital network" in lines 3-5. Herein, clearly as recited, frame based data is received at a data channel interface and for transmission over a wide area synchronous digital

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network but claim 85 does not recite that the data channel interface is an interface between a local and wide area network. Herein, the data channel interface can be coupled to the wide area synchronous digital network through other interfaces and so on. Further, claim 85 does not recite that the interface comprises a port connecting to local area network and another port connecting to wide area network. Therefore, applicant's argument is not directed to the claimed invention.

Applicant argues in page 14 that one skilled in the art would know as a matter of common knowledge that synchronous digital networks such as SONET and SDH networks, in themselves, do not require flow control. Data is transmitted at fixed data rates, no more or no less. Examiner respectfully disagrees. Even though, data is transmitted at a fixed rate but forming SONET frames from incoming data at ADM can be problematic and there are flow control techniques needed to solve the problems.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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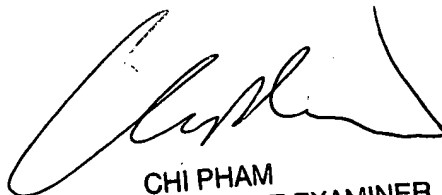
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H. Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

avl


CHI PHAM
SUPERVISORY PATENT EXAMINER 3/21/08